

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C08L51/04 C08F279/02 C08F257/02 C08F2/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C08L C08F C08C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 016, no. 066 (C-0912), 19 February 1992 (1992-02-19) & JP 03 263415 A (ASAHI CHEM IND CO LTD), 22 November 1991 (1991-11-22) * PAJ and WPI abstracts * abstract	1-9
X	PATENT ABSTRACTS OF JAPAN vol. 012, no. 358 (C-531), 26 September 1988 (1988-09-26) & JP 63 112646 A (ASAHI CHEM IND CO LTD), 17 May 1988 (1988-05-17) * WPI and PAJ abstracts * abstract	1,2
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

27 September 2004

Date of mailing of the international search report

12 NOV 2004

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 493 922 A (GAUSEPOHL HERMANN ET AL) 15 January 1985 (1985-01-15) * abstract * column 1, line 36 - column 2, line 39 -----	1-9
X	PATENT ABSTRACTS OF JAPAN vol. 017, no. 327 (C-1073), 22 June 1993 (1993-06-22) & JP 05 032848 A (ASAHI CHEM IND CO LTD), 9 February 1993 (1993-02-09) * PAJ and WPI abstracts * abstract -----	1-3,7,8
X	EP 0 418 042 A (DOW CHEMICAL CO) 20 March 1991 (1991-03-20) * page 2, line 45-54 ; page 3, line 44-46, 27-33 * abstract; claim 1 -----	1-9
X	PATENT ABSTRACTS OF JAPAN vol. 017, no. 582 (C-1123), 22 October 1993 (1993-10-22) & JP 05 170991 A (ASAHI CHEM IND CO LTD), 9 July 1993 (1993-07-09) * PAJ and WPI abstracts * abstract -----	1-3,7,8
X	EP 0 620 236 A (FINA TECHNOLOGY) 19 October 1994 (1994-10-19) * claims 12,13 ; page 3, line 2-5 ; page 4, line 33-41, 47-51, 9-30 ; abstract ; claims 1-6 ; page 3, line 26-30 * page 3, lines 26-30 -----	1-9
A	US 6 031 050 A (FUJITA MASANARI ET AL) 29 February 2000 (2000-02-29) * abstract ; claim 1 ; column 3, line 33-35, 24-47 ; column 4, line 22-26 * column 2, lines 29-44 -----	1-9
A	WO 99/09081 A (DEMIRORS MEHMET ;DOW CHEMICAL CO (US)) 25 February 1999 (1999-02-25) * abstract *claims 20,21,1-19 -----	1-9
A	US 5 936 036 A (KIHARA HAYATO ET AL) 10 August 1999 (1999-08-10) * claims 1-10 ; column 2, line 36-37 ; abstract * -----	1-9

# INTERNATIONAL SEARCH REPORT

Int. lional application No.  
PCT/EP2004/007296

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1 - 9

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-9

A rubber reinforced vinyl aromatic (co)polymer having a strictly bimodal morphology, consisting of 55-90%wt. of rigid polymeric matrix and 10-45%wt. of a rubbery phase dispersed inside said rigid polymeric matrix in the form of grafted and occluded particles and wherein said rubber particles consist of 60-99%wt. of particles with a capsule or core-shell morphology, and 1-40%wt. of particles with a salami morphology, said % being measured on the basis of the weight of the rubber particles only.

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2. claims: 10, partially 12-17

An independant mass-continuous process for preparation of rubber-reinforced vinyl aromatic (co)polymers which are not specifically and unambiguously the same copolymer products as described in the application claims 1-9 (i.e. the independant mass-continuous process claims are not specifically adapted for the manufacture of the specific product of claims 1-9 as required by the Administrative Instructions under the PCT, PCT Gazette, Section IV, Annex B)

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3. claims: 11, partially 12-17

An independant mass-suspension process for preparation of rubber-reinforced vinyl aromatic copolymers which are not specifically and unambiguously the same copolymer products as described in the application claims 1-9 (i.e. the independant mass-suspension process claims are not specifically adapted for the manufacture of the specific products of claims 1-9 as required by the Administrative Instructions under the PCT, PCT Gazette, Section IV, Annex B).

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 03263415	A	22-11-1991	NONE	
JP 63112646	A	17-05-1988	JP 2064624 C JP 4063099 B	24-06-1996 08-10-1992
US 4493922	A	15-01-1985	DE 3035570 A1 CA 1194247 A1 DE 3168499 D1 EP 0048389 A1	06-05-1982 24-09-1985 07-03-1985 31-03-1982
JP 05032848	A	09-02-1993	NONE	
EP 0418042	A	20-03-1991	AU 629036 B2 AU 6237990 A BR 9004699 A CA 2025097 A1 DE 69006667 D1 DE 69006667 T2 EP 0418042 A1 ES 2062393 T3 JP 3020112 B2 JP 3119013 A KR 161974 B1 US 5179166 A US 5264492 A	24-09-1992 21-03-1991 10-09-1991 13-03-1991 24-03-1994 12-01-1995 20-03-1991 16-12-1994 15-03-2000 21-05-1991 15-01-1999 12-01-1993 23-11-1993
JP 05170991	A	09-07-1993	NONE	
EP 0620236	A	19-10-1994	CA 2120994 A1 DE 69408191 D1 DE 69408191 T2 EP 0620236 A1 ES 2113079 T3	16-10-1994 05-03-1998 18-06-1998 19-10-1994 16-04-1998
US 6031050	A	29-02-2000	JP 8208940 A CN 1173887 A ,B WO 9624633 A1	13-08-1996 18-02-1998 15-08-1996
WO 9909081	A	25-02-1999	AU 8698098 A WO 9909081 A1	08-03-1999 25-02-1999
US 5936036	A	10-08-1999	JP 3141791 B2 JP 10101887 A CN 1182099 A ,B DE 19743504 A1	05-03-2001 21-04-1998 20-05-1998 02-04-1998